Honeywell

INNCOM DIRECT

Battery-Powered Sensor Installation

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Support and Other Contacts

For technical assistance or further information, call your nearest Honeywell office.

Related documentation

- INNCOM Direct D1-528 Thermostat Product Datasheet 31-00716
- INNCOM Direct D1-528 Thermostat Installation Instructions 31-00721
- INNCOM Direct D1-529 Thermostat Product Datasheet 31-00717
- INNCOM Direct D1-529 Thermostat and D-X47 HVAC Controller Installation Instructions 31-00722
- INNCOM Direct D-X47 HVAC Controller Datasheet 31-00719
- INNCOM Direct D-578 Router Product Datasheet 31-00718
- INNCOM Direct D-578 Router Installation Instructions 31-00720

Overview and General Concepts

The S541, K594, and K595 remote monitors belong to INNCOM's Integrated Room Automation System (IRAS). Each monitor in this family features a 2.4GHz radio for wireless RF communications and operates on batteries, offering a battery life of up to two years.

The S541 has three versions:

S541.RF (Part# 201–913.RF):

The S541.RF monitors the position of guestroom doors and communicates the status to the room, allowing devices like the room thermostat or lighting systems to receive door status updates. This functionality applies to entry doors, balcony doors, windows, and several other options. When combined with motion sensing from other INNCOM devices, such as the K595 or the built-in motion sensor of the INNCOM thermostat, it supports energy management. This makes it ideal for retrofit applications and for relaying door status from balcony doors or other openings in the room.

Note: *The S541.RF is compatible with either the D1–528 or D–X47/D1–529 battery thermostat.*

S541.RFT (Part# 201–913.RFT):

The S541.RFT allows for remote monitoring of guestroom temperature in situations where the mounting location of the INNCOM thermostat is not suitable for accurately measuring the desired room temperature. The RFT provides temperature accuracy of ±0.5°C within the range of 0°C to +65°C.

Note: *The S541.RFT is compatible ONLY with the D1–528 thermostat. The D1–529 battery thermostat features a built-in temperature sensor and will disregard any temperature readings from the S541.RFT.*

S541.RFH (Part# 201–913.RFH):

The S541.RFH is designed to remotely monitor guestroom temperature and humidity in scenarios where the mounting location of the Inncom thermostat is not ideal for accurately capturing the desired readings. The RFH offers temperature accuracy of ±0.5°C within the range of 0°C to +65°C and can measure relative humidity with an accuracy of ±5% RH over a compensated range of 5°C to 50°C.

Note: *The S541.RFH is compatible ONLY with the D1-528 thermostat. The D1-529 battery thermostat contains built-in temperature and humidity sensors and will not recognize any readings from the S541.RFH.*

K594 (Part# 201–594) and K595 (Part# 201–595):

The K594 and K595 are battery-powered remote PIR (Passive Infrared) motion sensors. The primary distinction between the two lies in their housing design. The K594 features an articulating body connected to the battery compartment, allowing the housing to be adjusted to direct the PIR motion sensor. In contrast, the K595 is a single-piece unit with a separate battery holder intended for installation in a single-gang electrical box, and its orientation is fixed.

PIR Fresnel Lens windows

K594   K595
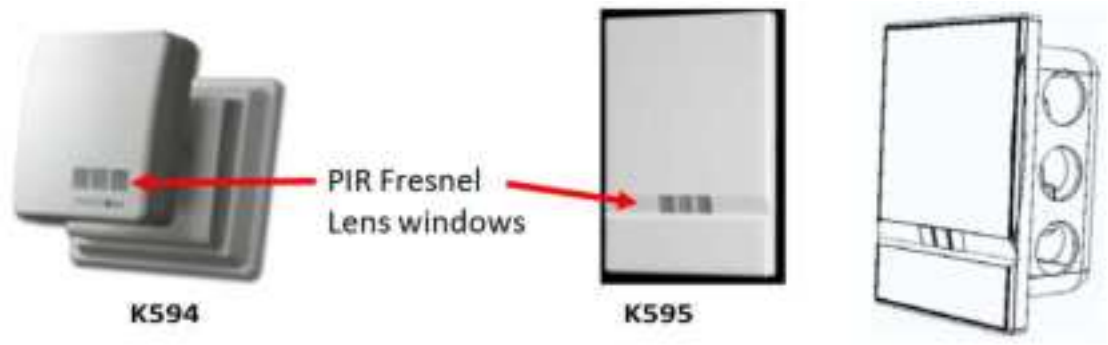
The S541, K594, and K595 series operate in three modes: sleep mode, which conserves battery life when there are no events to report; operation mode, which transmits switch status, temperature, or humidity; and bind mode, used for commissioning the product into the INNCOM RF Integrated Room Automation System.

These devices communicate with the INNCOM system using a 2.4GHz wireless radio frequency, so direct line of sight is not necessary between the remote monitors and the D1-528 or D1-529 thermostat.

Features

- Small, wall mountable design
- 2.4Ghz IEEE 802.15.4 compliant 0dB RF transceiver
- Deep mesh networking
- On-board door switch monitor, temperature sensor, and humidity sensing
- Industrial temperature ratings 0–65°C
- Motion Detection
- FCC Part 15b listed

Specifications

Parameter	S541.RF 4G
RF Data Rate	250kbps
Antenna Type	SMT
Indoor Range	70ft
Outdoor/RF Line-of-Sight-Range	540ft
Transmit Power	1mW (+0dBm)
Receive Sensitivity	-94.6dBm
Frequency Band	2.4Ghz
Encryption	AES-128
Protocol	802.15.4
Frequency Channels	11-26
Temperature Sensing Accuracy	0.5°C from 0°C–65 °C
Humidity Sensing Accuracy	+/- 5%RH over a compensated range of 5°C - 50°C
Battery Life	2 Years
Operating Ambient Temperature	0°C–40 °C
LED / Switch	Flashes on power up. Flashes slow in bind mode. Flashes fast on receiving the bind command. Switch presses are used for teach mode and to initiate bind mode.
Dimensions	L=102mm × W=32mm × H=14mm

Network Typology
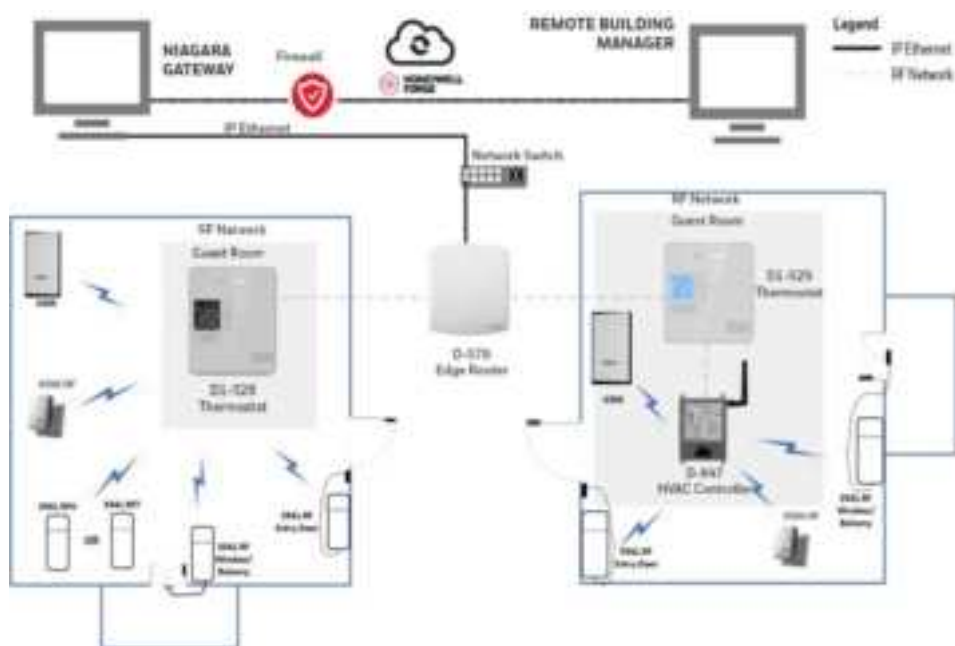
Installation

Important Items to Know Before Installation

- You do not need to configure or run Niagara or Niagara Supervisor Remote Building Manager (RBM) to install, commission, and test the S541.RF/RFT/RTH, K594/K595 devices. This process is entirely in-room and performed using the D1-528 or D-X47/D1-529.

- Installing and configuring the D1-528 or D-X47/D1-529 and B578 Edge Router, or using the Niagara Inncom EasyOnboard wizard to add these devices to Niagara, is beyond the scope of this document. For detailed instructions, refer to the following documents:

  - INNCOM Direct Quick Start Guide 31-00741-01.pdf

  - INNCOM Direct D578 Edge Router Installation Instructions - 31-00720-01.pdf

  - INNCOM Direct Security Guide - 31-00743-01.pdf

  - INNCOM Direct D1-528-Thermostat Installation Instructions 31-00721-01.pdf

  - INNCOM Direct D1-529 Thermostat and D-X47 HVAC Controller II 31-00722-01.pdf

- In an Inncom Direct system, the D1-528/D-X47/D1-529 devices use a Global encryption key by default for RF messages. This same Global key is used by other Inncom RF devices such as the S541, K594, and K595.

Once all D1-528/D-X47/D1-529 devices are installed and tested, the D578 Edge Router is placed into "Secure Key Distribution" mode. In this mode, it generates a property-specific secure encryption key and broadcasts it to the installed D1-528/D-X47/D1-529 devices, ensuring RF messages between these devices and the D578 Edge Router are encrypted with the property-specific key.

However, the S541, K594, and K595 devices only support the Global encryption key. These devices can only send/transmit messages and cannot receive the secure property key from the D578. Therefore, there must be a way for the D1-528/D-X47/D1-529 devices, now using the property-specific key, to receive messages sent from the S541, K594, and K595 devices using the Global key.

This is achieved via Registry 9:23:0:18 LegacyVFI_Enable in the D1-528 or D-X47. All options in 9:23:0:18 are set to 0 and disabled by default, and are enabled when the D1-528 or D-X47 is set up via the Niagara Inncom EasyOnboard wizard. With the appropriate options set in 9:23:0:18, the D1-528 or D-X47 can receive and process messages sent from the S541.RF/RFT/RFH or K594/K595 using the Global key, even if the D1-528 or D-X47/D1-529 are using the property-specific key.
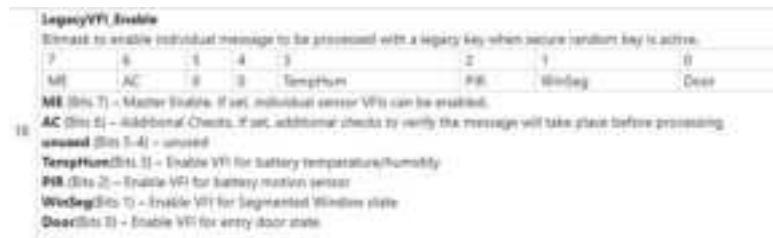
Mounting Considerations

- The S541.RF/RFT/RTH, K594/K595 devices should be mounted unobtrusively within an operational range of 70 feet indoors from the D1-528/D1-529 thermostat and any other devices they may communicate with.

- Avoid areas of direct sunlight.

- Avoid possible sources of RF interference or blockage, such as metallic boxes, WiFi access points, or metal water pipes. For example, do not mount the S541/K594/K595 on a metal surface that is between the S541/K594/K595 and the D1-528/D1-529.

- If possible, a direct line of sight between the S541/K594/K595 and the D1-528/D1-529 is preferred, but not mandatory.

- Do not mount in areas of high humidity.

- The attached 2-conductor cable of the S541.RF 201-913 Switch Transmitter is 56 inches in length, so consider the S541 mounting location in relation to the switch being monitored.

- For the S541.RFT or S541.RFH:

  - Mount the device in a remote location away from the thermostat where you want to measure temperature and/or humidity. The device must be mounted vertically with the ventilation slits at the bottom edge of the unit to allow convection to create airflow through the unit.

  - Avoid areas of direct air discharge (preferably closer to an air intake point).

  - Avoid areas around windows and exterior doors.

- For the K594/K595:

  - The location of the K594/K595 is determined by the individual guestroom design. Placement should provide maximum room coverage by the PIR motion detector while maintaining RF communication between the device and the D1-528/D1-529 thermostat. Ideally, the device should be positioned on a wall opposite entrances and interior doors (8 feet high, 0° angle, 0° pitch). It should be positioned to view both the entry door and the bed areas of the guestroom; the swivel mounting allows adjustment for optimal occupancy sensing.

  - Mount the device so that the PIR Fresnel lens is pointing toward the area where you want to detect motion.

  - If possible, avoid mounting the device near sources of non-human motion, such as moving curtains.

Installing the S541.RF for Entry Door , Window , Balcony Position Monitoring

Install the Inncom 04-1095 flush mount S241 switch or the 04-1097 surface mount S241W switch.
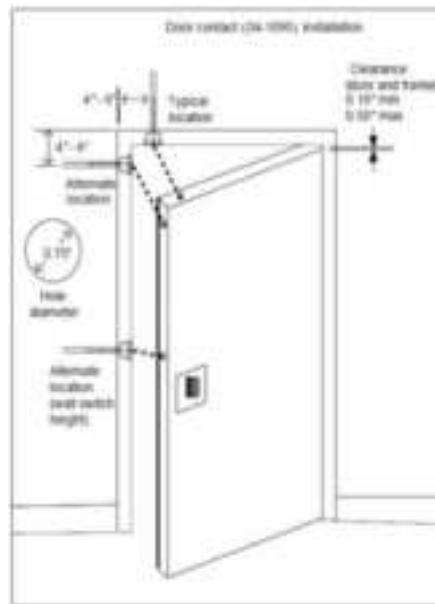
The image above shows the recommended mounting for the 04-1095 flush mount S241 switch on a standard door. This also applies to a sliding window or balcony door with a frame that can accommodate the 04-1095 flush mount S241 switch. However, in most cases, the 04-1097 surface mount S241W would be used, as described below.

The contact location must allow the switch to detect a door resting against the frame but not latched. Placing the S241 closer to the hinge will provide a "door open" indication with a smaller open angle. The switch and its magnet can also be installed horizontally, as indicated by the "alternate location" in Figure X.

The S241 has a "lip" inset below the door frame. The space between the door and the frame must accommodate this lip, which is approximately 0.06 inches (1.5 mm) thick.

Both the switch and magnet require a 3/4 inch (0.75 inch) diameter hole to be drilled into the door frame and door.

You must be able to route the attached 56-inch 2-conductor wiring of the S541 to the location of the S241 switch, or use/install an additional 2-conductor cable to reach the S241 switch from the S541.RF.
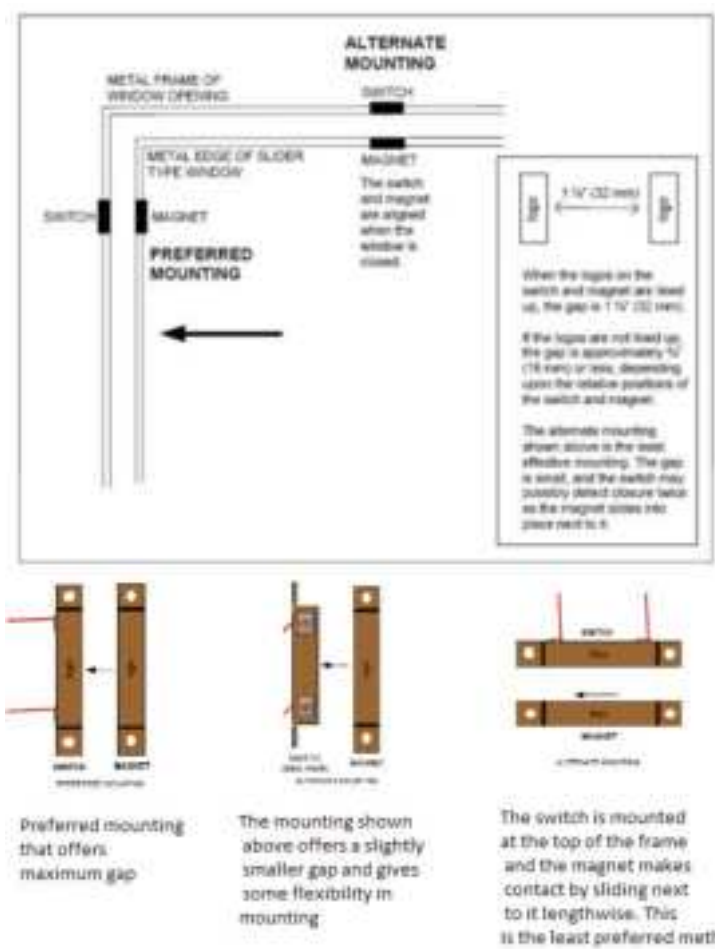
The figure above shows the recommended mounting for the 04-1097 surface mount S241.

You must be able to route the attached 56-inch 2-conductor wiring of the S541.RF to the location of the S241 switch, or use/install an additional 2-conductor cable to reach the S241 switch from the S541.RF. Follow the below steps for installation:

Step 1.   Remove the top housing cover of the S541.RF (item 1 in the drawing below).

Step 2.   Select the mounting location for the S541.RF, preferably in a vertical or horizontal orientation. The attached switch leads are 56 inches long, so mount the S541.RF within that distance from the S241 switch, or use an additional 2-conductor wire if needed.

Step 3.   Mark the position of the screw holes (item 8 in the drawing below) and drill holes using a drill size appropriate for the mounting hardware.

Step 4.   Use the supplied double-sided tape to affix the S541 in position, then secure it with the supplied screws.

Step 5.   Insert the 2 AAA batteries. It is recommended to use alkaline batteries only.

Step 6.   Replace and secure the top housing.

Step 7.   Connect the 2 wiring leads from the S541 to the switch using appropriate wire nuts or hardware.

Step 8.   Proceed to the Reverse Bind the S541\K594\K595 section to bind the S541.RF with the K594/K595.

Installing the S541.RFT or S541.RFH

Step 1.   Remove the top housing cover of the S541.RFT/RFH (item 1 in the drawing above).

Step 2.   Select the mounting location for the S541.RFT/RFH. The device must be mounted vertically with the ventilation slits at the bottom edge to allow convection to create airflow through the unit.

Additional placement considerations:

- Install the S541.RFT/RFH in the remote location where you want to measure temperature and humidity.

- Avoid areas exposed to direct sunlight.

- Avoid areas with direct air discharge (preferably mount closer to an air intake point).

- Avoid areas around windows and exterior doors.

Step 3.   Mark the position of the screw holes (item 8 in the drawing above) and drill holes using a drill size appropriate for the mounting hardware.

Step 4.   Use the supplied double-sided tape to affix the S541 in position.

Step 5.   Secure the S541 with the supplied screws.

Step 6.   Insert the 2 AAA batteries. It is recommended to use alkaline batteries only.

Step 7.   Replace and secure the top housing.

Step 8.   Proceed to the Reverse Bind the S541\K594\K595 section to bind the S541.RFT/RFH with the K594/K595.

Installing the K594

Step 1.   Remove the mounting base (item 7 in the drawing below) from the K594.

Step 2.   Drill two holes in the wall at the desired mounting location corresponding to the screw holes in the base. Ensure you are mounting the K594 so that it faces the area where you want to monitor motion. The typical maximum

sensing distance for the K594 is 40 feet (12 meters) directly in front of the K595 and 60 degrees to either side.

Step 3. Mount the base using the supplied 6×32×1 screws (item 8 in the drawing below).

Step 4. Insert 4 AA batteries into the battery compartment assembly (item 4 in the drawing below). It is recommended to use alkaline batteries only.

Step 5. Snap the battery compartment assembly to the base.

Step 6. Proceed to the Reverse Bind the S541\K594\K595 section to bind the K594.RF with the S541/K594/K595.
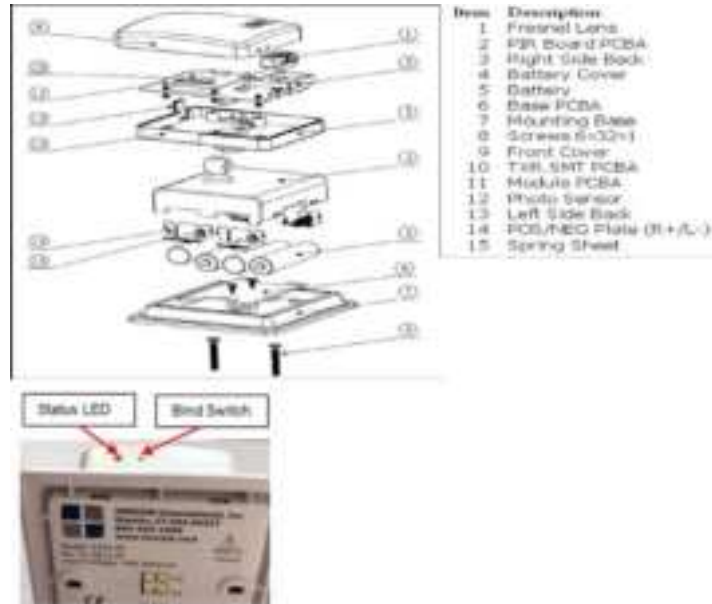
Installing the K595

Step 1. Install a single gang wall box at the desired location for the K595 or use an existing wall box if already available at the desired location. Typical maximum sensing distance for the K595 is 30ft (9m) directly in front of the K595 and 60 degrees to either side.

Step 2. Pull the metal mounting bracket off of the K592. It is attached via 4 magnets. Install it carefully onto the wallbox with the provided screws. Be careful not to bend the bracket.

Step 3.   Install the 4 AA batteries into the 2 x 2 battery pack. It is recommended to use Alkaline batteries only.

Step 4.   There should be a 2 sided piece of Velcro attached to the rear of the K595. Pull away the upper piece of Velcro, remove the film covering the sticky side of the Velcro piece and press it onto the battery pack.

Attach the battery pack to the rear of the K595, aligning the Velcro pieces and pressing the battery pack firmly to ensure the Velcro pieces are securely attached. Plug the 2-pin plug of the battery pack into the 2-pin header on the K595 (circled in red). The 2-pin socket and plug are keyed to fit only one way. The brown wire should be on top, closer to the blue button switch, if plugged in correctly.

There is a 3-pin header below the 2-pin header. Do not plug the battery pack into this 3-pin header.

Step 5.   Re-attach the K595 onto the metal mounting bracket installed in step 1. The four magnets on the K595 should pull it securely onto the metal backplate. Ensure the PIR window of the K595 (circled in red) is positioned at the bottom.
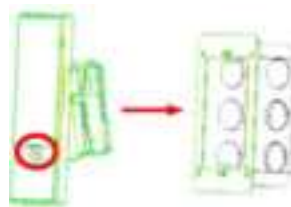
Step 6.   Proceed to the Reverse Bind the S541\K594\K595 the S541\K594\K595 section to Bind the K595.RF.

Reverse Bind the S541\K594\K595

Reverse Binding Steps Summary:

Step 1.   On the D1-528/D1-529 thermostat, enter service mode and define the desired I/O map and/or address that the S541/K594/K595 should adopt using the thermostat's Io or Adr service parameter. Then, enable the thermostat to watch for a bind request from the S541/K594/K595.

Step 2. Initiate the reverse bind from the S541/K594/K595 by pressing its bind button. The device will broadcast a configuration bind request into the room.

Step 3. When the D1-528 or D1-529 thermostat receives this bind request from the device, it will send a configuration message to the device, including the I/O map and/or address the device should adopt. The S541/K594/K595 will then activate the advertised I/O map and/or address and send a message to the thermostat, causing it to beep as an indication that the device was bound.

Warning: **You cannot have multiple people binding the S541/K594/K595 devices simultaneously, especially if they are in close proximity to each other. The reason is that the configuration request sent from the S541/K594/K595 when you press its bind button is broadcast on all RF channels 11-26. If someone in an adjacent room or down the hall is also binding S541/K594/K595 devices at the same time and has their D1-528 or D1-529 watching for a bind request, their thermostat could accept and use the bind request from the wrong room.**

Bind Switch Location on each device

S541.RF, S541.RFT   K595   K594

Binding Steps for S541\K594\K595

Follow the steps for binding:

Step 1. Place the D1-528/D1-529 thermostat in Service Parameter mode by pressing the ºF |ºC button for more than 4 seconds and then releasing it. The display should show "rid".

Step 2. Quickly press the Down arrow button twice to select the Adr (Address) parameter. If you wait too long after entering service mode, it will time out and you will need to repeat step 1. Press the DISPLAY button to view the

value of the Adr parameter. The default value will be 1 for a D1–528 and 0 for a D1–529.

If you want to set an address for the S541/K594/K595 device that is different from what the selected I/O map configures:

- Use the Up or Down arrow button to select the desired address.

- Press the F/C button to return to Adr on the display.

- Press the Up arrow button to select the Io service parameter and proceed to step 3.

You would typically do this if you have more than one of the same device and want each to have a unique address while maintaining the functionality of the I/O map set in step 3. For example, if you have multiple K595/K594 or S541.RF devices installed and want each to have a unique address.

If you do not want to set an address different from what the I/O map configures:

- Use the Up or Down arrow button to set the address value to 1 for a D1–528 or 0 for a D1–529.

- Press the F/C button to return to Adr on the display.

- Press the Up arrow button to select the Io service parameter and proceed to step 3.

Step 3.   With Io on the display, press DISPLAY to view the value. Use the Up or Down arrow buttons to select the desired I/O map per below table.

Step 4.   Execute the Reverse Bind.

If using the D1–528:

- Press the POWER button. "bnd" will appear on the display.

- Go to the S541/K594/K595 and press its bind button to broadcast a bind request into the room.

If using the D1–529:

- No action is required on the D1–529.

- Go to the S541/K594/K595 and press its bind button to broadcast a bind request.

Step 5.   When the D1-528/D1-529 receives the reverse bind command from the S541, K594, or K595, it will send a Bind Offer containing the I/O map (and address if also setting an address) to the S541, K594, or K595. If the S541, K594, or K595 receives and accepts the Bind Offer, it will reset and send three "sound buzzer" commands to make the thermostat beep three times, indicating the reverse bind was successful.

Step 6.   Test the functionality of the S541, K594, or K595. Refer to the Testing the Sensors section.

Testing the Sensors

Follow the steps to test the mentioned sensors.

S541.RF Door Sensor

Once the S541.RF is installed and configured to monitor the room entry door (IOM 0), the user can perform a test to verify its functionality:

Step 1.   Enter the service mode on the D1-528 or D1-529 by pressing the ºF?ºC button for 4 seconds.

Step 2.   In the service mode menu, navigate to the dor option.

- **If using the D1-528**: Press the DISPLAY button to start the door test. "dor" will disappear and "V" and "0" will be displayed. Open the door; "dor" will appear and the D1-528 will sound its buzzer. Close the door, and the buzzer should stop. The display will show "V" and the number of times the door has been opened.

- **If using the D1-529**: Press the DISPLAY button to start the test. "dor" will disappear and "V ---" will be displayed. Open the door; "door" will appear at the top of the display and the D1-529 will begin beeping. Close the door, and the display will show "V ---" and stop beeping.

Step 3.   To access the service mode menu, press the ºF|ºC button. Press it again to return to normal operation. The D1-529 has a timeout feature, and after 60 seconds, the test concludes and the device returns to the service mode menu.

S541.RF Window\Balcony Door Sensor

With the S541.RF installed and configured to monitor the window or balcony door, the user can conduct a test to verify its functionality in monitoring the window or balcony state.

Step 1.   Enter service mode on the D1-528 or D1-529 by pressing the °F|°C button for 4 seconds.

Step 2.   In the service mode menu, locate the Uin option.

- **For D1-528**: Press the DISPLAY button to initiate the test. The display will show V 00.h. Open the window or balcony door, and the displayed value will increase by one (V 01.h). The D1-528 will continue to beep as long as the window is open. Close the window, and the beeping will stop, with the display remaining at the last number shown.

- **For D1-529**: Press the DISPLAY button to start the test. The display will show V ---. Open the window or balcony door, and the D1-529 will display the Balcony, Window, Lanai icons, show bAL, and start beeping. Close the window, and the beeping will stop, with the display returning to V ---.

Step 3.   To return to the service mode menu, press the °F|°C button again. Press it once more to return to normal operation. The D1-529 has a timeout feature, and after 60 seconds, the test ends and it returns to the service mode menu.

S541.RFT Remote Temperature Sensor

Once the S541.RFT is installed and configured, pressing the DISPLAY button on the D1-528 will show the measured room temperature, which is the temperature reported by the S541.RFT.

Step 1.   To perform a precise test, use a precision temperature sensor to measure the temperature near the S541.RFT. Then, press the DISPLAY button on the D1-528 once to show ROOM and a temperature. Compare the displayed room temperature with the reading from the precision temperature sensor.

The D1-528 will only display the measured temperature briefly before reverting to the target/set temperature, so you may need to press the DISPLAY button multiple times to view the measured temperature.

Step 2.   If you don't have a precision temperature sensor, you can use a heat source like a light bulb or simply breathe on the S541.RFT to increase its temperature. Then, press the DISPLAY button on the D1-528. ROOM and

a temperature will be displayed. Confirm that the displayed temperature value is rising.

S541.RFH Remote Temperature /Humidity Sensor

With the S541.RFH installed and configured, you can use the DISPLAY button on the D1-528 to show the measured room temperature and humidity, which are reported by the S541.RFH.

Step 1.   To perform a precise test, use a precision temperature/humidity sensor to measure the temperature and humidity near the S541.RFH. Then, press the DISPLAY button on the D1-528. ROOM and a temperature will be displayed. Compare the displayed room temperature with the reading from the precision temperature sensor. Press the DISPLAY button twice to show the measured humidity. Compare the displayed room humidity with the reading from the precision humidity sensor.

The D1-528 will only display the measured temperature or humidity briefly before reverting to the target/set temperature, so you may need to press the DISPLAY button multiple times to view the measured values.

Step 2.   If you don't have a precision temperature/humidity sensor, you can use a heat source like a light bulb near the S541.RFH or simply breathe on the S541.RFH to increase its temperature. Then, press the DISPLAY button on the D1-528 once to show the measured temperature. ROOM and a temperature will be displayed. Confirm that the displayed temperature value is rising.

Press the DISPLAY button again to show the measured humidity value. You should also see the reported humidity value increase

K594/K595 PIR Motion Sensor Walk Test

With the K594 or K595 installed and configured , you can perform a test of the K594/K595 motion sensor .

D1-528

Step 1.   Enter the service mode by pressing the ºF|ºC button for 4 seconds and then releasing it.

Step 2.   Use the up or down arrow buttons to find the "PIr" option.

Note: *Since the D1-528 has an integrated PIR sensor, it is recommended to cover it during the test to obtain more accurate results with the external sensor.*

Step 3.   Press the **DISPLAY** button to start the test. The display will show V 0.

Step 4.   On the K594/K595, press the Bind button twice quickly (press – press) to initiate the 60-second Walk test. Begin moving around the room. When the K594/K595 detects motion, it will send a "motion detected" message into the room. When the D1-528 receives this message, it will beep and increase the displayed value by 1. The K594/K595 will automatically stop the test after 60 seconds. To start another test, press the Bind button twice quickly again.

Step 5.   To return to the service mode menu, press the ºF|ºC button again. Press it once more to return to normal operation.

D1-529

Step 1.   Enter the service mode by pressing the ºF?ºC button for 4 seconds.

Step 2.   Use the up and down arrow buttons to find the "rUn" option, then press the DISPLAY button to enter the run menu.

Step 3.   The display will show P 1. Press the Up arrow button to navigate to P 14, then press DISPLAY to start the external PIR sensor test.

Step 4.   Once the test begins on the D1-529, press the Bind button twice quickly (press – press) on the K594/K595 to initiate the 60-second Walk test. Begin moving around the room. When the K594/K595 detects motion, it will send a "motion detected" message into the room. Each time the D1-529 receives this message, it will display PIr and sound its buzzer.

Step 5.   The K594/K595 will automatically stop the test after 60 seconds. To start another test, press the Bind button twice quickly again.

Step 6.   To return to the service mode menu, press the ºF?ºC button again. Press it once more to return to normal operation. The D1-529 has a timeout feature, and after 60 seconds, the test ends and it returns to the service mode menu.

Troubleshooting

The S541.RF is not reporting room entry door position correctly

**Symptoms of the S541.RF not reporting room entry door state correctly**:

- You don't see the door state change in the Door/Window Status section for a room in RBM, even though the door has been opened or closed.

- When you perform the S541.RF Door Sensor via the door service parameter on the D1-528/D1-529, the test fails.

- You are receiving a Door Open Too Long alarm for a room in RBM.

- The room remains occupied even though the guest opened and closed the door and left the room.

- The entry door state displayed in RBM Room > Points > Entry Door State always indicates open or closed.
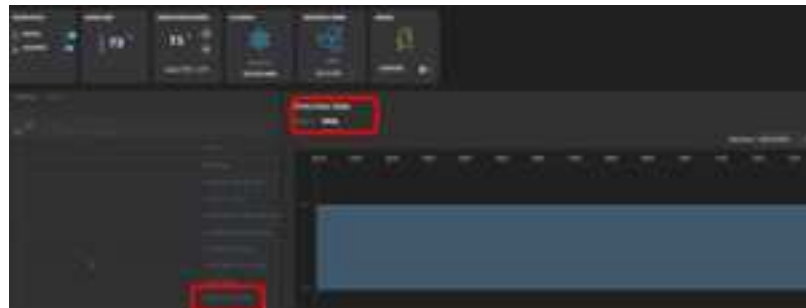
What to check:

Door Switch/Magnet Issues:

- Are the two wires from the S541.RF properly connected to the magnetic switch mounted on or in the door frame?

- Is the switch magnet correctly installed on the door?

- Is the alignment between the magnetic switch and the door magnet incorrect?

Refer to the "Installing the S541.RF for Entry Door , Window , Balcony Position Monitoring" section of this document.

S541.RF Battery Issues:

- Is there a Low Battery alarm for the particular room in RBM? If so, replace the two AAA batteries and test the S541.RF again.

Was the S541.RF entry door configured correctly, or was the S541.RF replaced and never configured/reverse bound from the room's D1-528 or D1-529?

- If you're unsure, simply re-bind the S541.RF using I/O Map 0. Refer to the Binding Steps section for guidance.

The hotel uses an S541.RF to monitor and report Balcony door / Window state and it is not getting reported correctly

Symptoms of the S541.RF not reporting balcony door/window state correctly:

- You don't see the window state change in the Door/Window Status section for a room in RBM, even though the window or balcony door has been opened or closed.

- The D1-528 displays "BALCONY - - -" or the D1-529 displays "BALCONY" when it thinks the balcony door is open. Opening or closing the balcony door/window does not change the displayed status.

- When you perform the balcony door test via the Uln service parameter on the D1-528 or D1-529, the test fails.

- A room using the S541.RF as a window/balcony monitor is not controlling the HVAC. The RBM Room Trend plot shows a wide 50-90°F control band, and the AC status is not heating or cooling, with the fan speed off.The window state indicates "Window Open." These are all indications that the D1-528/D1-529

thermostat in the room thinks the balcony door is open. You visited the room and found the balcony door shut.
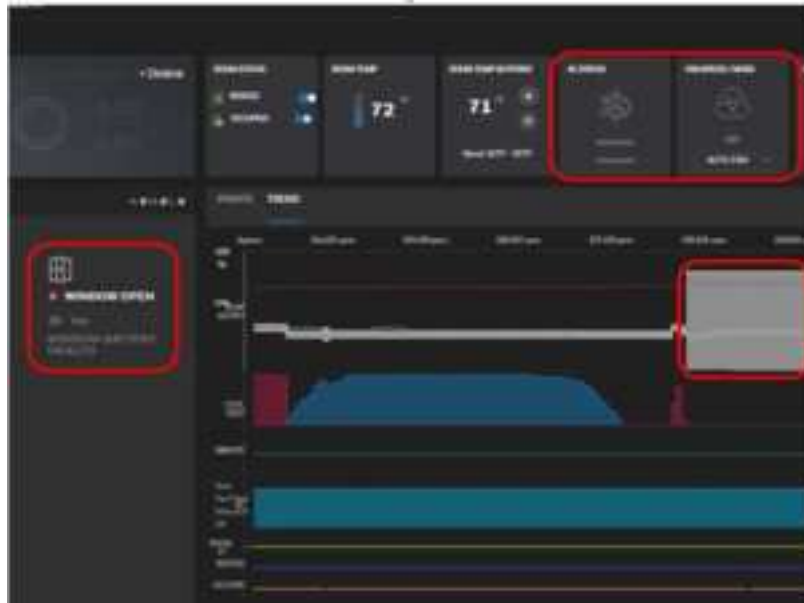

What to check:

Door Switch/Magnet Issues:

- Are the two wires from the S541.RF properly connected to the magnetic switch mounted on or in the balcony door/window frame?
- Is the switch magnet correctly installed on the balcony door/window?
- Is the alignment between the magnetic switch and the door magnet incorrect?

Refer to the "Installing the S541.RF for Entry Door , Window , Balcony Position Monitoring" section of this document.

S541.RF Battery Issues:

- Is there a Low Battery alarm for the particular room in RBM? If so, replace the two AAA batteries and test the S541.RF again.
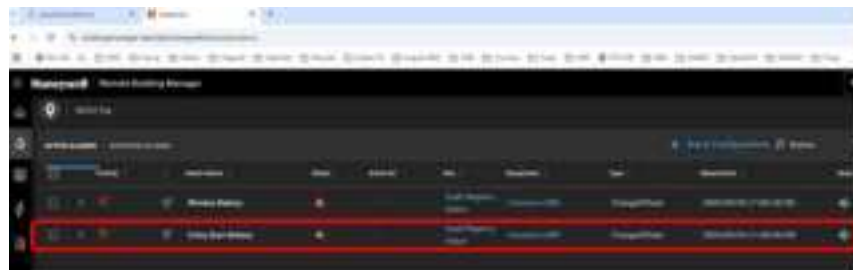
Was the S541.RF balcony monitor configured correctly, or was the S541.RF replaced and never configured/reverse bound from the room's D1-528 or D1-529 for the balcony door?

- If you're unsure, simply re-bind the S541.RF using I/O Map 1. Refer to the Binding Steps for S541\K594\K595 section for guidance.

S541 , K594,K595 Binding Issues

I bound the S541/K594/K595 using a specific I/O Map, but the address reported by the S541 does not match what Table 1 on page 14 indicates it should be.

Probable Cause: The Adr parameter on the D1-528 was not verified to be set to 1, or on the D1-529 was not verified to be set to 0 when you reverse bound the S541.RF. Try re-binding the S541 and ensure you follow the steps in the Binding Steps for S541\K594\K595 section.

I tried binding an S541/K594/K595, but did not hear the D1-528/D1-529 beep indicating the bind occurred, and I don't see the S541/K594/K595 working.

Probable Causes:

- If using the D1-528, did you ensure you pressed the POWER button so that "bnd" appeared on the D1-528 display before pressing the Bind button on the S541/K594/K595?

- If using the D1-529, did you ensure "V X" (where X is the desired I/O Map) was displayed on the D1-529 before pressing the Bind button on the S541/K594/K595?

The D1-528 thermostat PIr Motion Sensor walk test or the D1-529 rUn 14 PIR walk test is not working when using the K594/K595.

Possible Reasons:

- Was the K594/K595 correctly bound from the D1-528/D1-529? If the K594/K595 is not set to the same Room ID, PAN ID, and RF Channel as the D1-528/D1-529, they will not be able to communicate, and the walk test will fail. Try re-binding the K594/K595 from the D1-528/D1-529 and perform the PIR walk test again.

- Did you press the Bind button on the K594/K595 twice quickly (press-press) to start the walk test?

- The walk test lasts only 60 seconds, after which the K594/K595 stops the test. Ensure you immediately start moving around to create motion after starting the walk test. If unsure, restart the test by pressing the K594/K595 Bind button twice quickly (press-press).

- Is the D1-528 or D-X47 (and the D1-529 partner) powered and correctly configured with the same Room ID as the K594/K595? Was the D1-528/D-X47 replaced and not configured to the correct Room ID? Verify the correct Room ID is configured in the D1-528/D-X47/D1-529. If the walk test still does not work, try binding the K594/K595 again after verifying the D1-528/D-X47/D1-529 are configured correctly.

Safety/Regulatory

This device contains FCC ID: GTC202913TXR.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IC:1609A-202913TXR

This Class B Digital Apparatus complies with Canadian ICES-0003. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil numérique de la classe B est conforme à la norme NMB-0003 du Canada. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Document Revision History

REVISION	DATE ISSUED	REASON FOR CHANGE
0.1	03-OCT-2013 First Draft	
0.2	09-OCT-2013	First R&D Review
0.3	13-NOV-2013	Correct Binding Instructions / Add FCC statement
1.0	20-NOV-2013	Prepare for release
1.1	06-MAY-2014	Fixed OPN
2.0	02-MAR-2017	Rebranded to meet Honeywell Specifications
2.1	07-May-2025	Revamped the document to include Battery-Powered Sensor Installation information.

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